

CLAIMS:

- 1 1. A method of communicating in a hierarchical cellular system, said
2 method comprising the steps of:
 - 3 determining a timer value which is a function of the duration that a wireless
4 unit operates within at least a cell of a first layer; and
 - 5 using said timer value in determining whether said wireless unit is to be
6 handed off to at least a cell of a second layer.
- 1 2. The method of claim 1 wherein said step of determining comprises:
 - 2 starting a timer as said wireless unit operates within a first cell of said first
3 layer; and
 - 4 stopping said timer after a trigger is detected for handing off said wireless unit
5 to a second cell of said first layer.
- 1 3. The method of claim 1 wherein said step of determining comprises:
 - 2 determining an amount of time said wireless unit is within a first cell of said
3 first layer before being handed off to a second cell of said first layer.
- 1 4. The method of claim 3 wherein said step of determining further
2 comprises:
 - 3 using said amount of time said wireless unit is within said first cell as said
4 timer value.
- 1 5. The method of claim 3 wherein said step of determining further
2 comprises:
 - 3 determining said timer value as a function of said amount of time said wireless
4 unit is within said first cell.

1 6. The method of claim 5 wherein said step of determining further
2 comprises:

3 determining said timer value as a function of amounts of time said wireless
4 unit is within cells of said first layer.

1 7. The method of claim 1 wherein said step of using comprises:
2 comparing said timer value to a first threshold; and
3 handing off said wireless unit to a second layer depending on said comparison.

1 8. The method of claim 1 wherein said step of using further comprises:
2 comparing said timer value to a first threshold; and
3 handing off to a layer of smaller cells if said timer value is greater than said
4 first threshold.

1 9. The method of claim 8 wherein said step of using further comprises:
2 comparing said timer value to a second threshold; and
3 handing off to a layer of larger cells if said timer value is less than said second
4 threshold.

1 10. The method of claim 9 wherein said step of using further comprises:
2 remaining in a current layer if said timer value is less than said first threshold
3 and greater than said second threshold.

1 11. An inter-layer handoff system for communicating in a hierarchical
2 cellular system, said system comprising:
3 processing circuitry configured to determine a timer value which is a function
4 of the duration that a wireless unit operates within at least a cell of a first layer of said
5 hierarchical cellular system and to use said timer value in determining whether said
6 wireless unit is to be handed off to at least a cell of a second layer.

1 12. The system of claim 11 wherein said processing circuitry is configured
2 to start a timer as said wireless unit operates within a first cell of said first layer and to
3 stop said timer after a trigger is detected for handing off said wireless unit to a second
4 cell of said first layer.

1 13. The system of claim 11 wherein said processing circuitry is configured
2 to determine an amount of time said wireless unit is within a first cell of said first
3 layer before being handed off to at least a second cell of said first layer.

1 14. The system of claim 13 wherein said processing circuitry configured to
2 use said amount of time said wireless unit is within said first cell as said timer value.

1 15. The system of claim 13 wherein said processing circuitry is configured
2 to determine said timer value as a function of said amount of time said wireless unit is
3 within said first cell.

1 16. The system of claim 15 wherein said processing circuitry is configured
2 to determine said timer value as a function of amounts of time said wireless unit is
3 within cells of said first layer.

1 17. The system of claim 11 wherein said processing circuitry is configured
2 to compare said timer value to a first threshold and to handoff said wireless unit to a
3 second layer depending on said comparison.

1 18. The system of claim 11 wherein said processing circuitry is configured
2 to compare said timer value to a first threshold and handoff to a layer of smaller cells
3 if said timer value is greater than said first threshold.

1 19. The system of claim 18 wherein said processing circuitry further
2 configured to compare said timer value to a second threshold and handoff to a layer of
3 larger cells if said timer value is less than said second threshold.

1 20. The system of claim 19 wherein said processing circuitry further
2 configured to remain in a current layer if said timer value is less than said first
3 threshold and greater than said second threshold.